

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

DATE: JUL 09 1985

SUBJECT: Trip Report-Xerox Corporation-Refurbishing Division  
1808 Swift Drive, Oak Brook, Illinois

FROM: Sheri Bianchin, Engineer  
Air Compliance Branch, Section 1

*SLB*

TO:

FILES

THRU: George Czerniak, Chief  
Air Compliance Branch, Section 1

*G. Czerniak*

Date of Inspection: December 13, 1984

Personnel Participating (As Shown in Attachment I):

Sheri Bianchin; Environmental Engineer, U.S. EPA  
Brad Bradley; Environmental Engineer, U.S. EPA  
Kelly Masters; Environmental Engineer, Xerox Corporation  
Jerry Leedy; Engineer, Xerox Corporation - Refurbishing Division  
Earl Hitt; Manager, Technical Services, Xerox Corporation  
John Pestka; Plant Manager, Xerox Corporation - Refurbishing Division

Purpose:

The purpose of the inspection was to determine the compliance status of Xerox Corporation's Oak Brook facility with Illinois Air Pollution Control Regulations. Company officials asserted a business confidentiality claim to process information obtained during the inspection and information which may be later sent U.S. EPA. Therefore, such information is considered confidential and should be handled in accordance with 40 CFR Part 2.

Summary:

The Xerox Corporation in Oak Brook is a centralized refurbishing center. No fabrication takes place at this facility. Used Xerox machines (photo copy machines) are renovated and then sent out to be resold. The Xerox machines are first disassembled. Parts are blown off, cleaned and/or degreased, scuffed, painted and finally the machines are rebuilt. The exterior of the machines (i.e., the panels) are painted for cosmetic purposes. The machines are then packaged and shipped out to be sold.

Xerox is located in an industrial park. Xerox operates, at full scale, from 7:00am - 3:30pm, 5 days per week and operates a residual shift for support operations from 4:00pm - 12:30am, 5 days per week. Xerox has 245,000 square feet of floor space and a total of 396 employees.

### Tear Down Area

Before tearing down the machine, excess toner which is caked on the inside of the machine is vacuumed out by what is called a "centralized vacuum." The vacuum runs continuously and is exhausted to a baghouse which is located in an enclosed room (i.e., same room as the boilers). The baghouse bin is emptied daily. There is also another central vacuum to exhaust the particulates from the tear down area to a baghouse. The baghouse is located in an enclosed room. The vacuum runs continuously, and the baghouse bin is emptied on a daily basis.

### Scuffing Operations

Scuffing or sanding is performed on parts to remove the old coating. There are three scuffing tables and two scuffing booths at the Xerox facility. The tables utilize a downward draft with bag filters underneath the tables to catch the particulates. The bags are shaken every day and are removed to be blown out once per month. The clean air from this process is exhausted to the atmosphere. The booths consist of three side walls with an open front. The booths utilize filters for particulate control. Each booth is exhausted to the atmosphere.

### Cleaning Operations

Twelve photographs were taken, of the cleaning operations and are shown as Attachment II. After the photocopy machines are torn down, they must be cleaned. Prior to cleaning the parts with a particular cleaning solution, loose dirt is blown off which is accomplished in a "blow-off" booth. The booth consists of three side walls with an open front. The booth utilizes water walls for particulate control. At the time of the inspection, only (approximately) 1/3 of the area was covered by the water curtain.

The amount of dirt and grease on a particular machine part will determine the degree of cleaning which must be performed on the part. There are three types of cleaning solutions used at Xerox Corporation's Oak Brook facility. The cleaning solutions are designated as the Formula B solution (i.e., formerly designated Formula A), delaminating solution, and the solvent blend referred to as AP72A.

The Formula B cleaning solution is equivalent to soap and water type cleaning and is used on parts which are only slightly dirty. The Material Safety Data Sheet is shown in Attachment III.

The delaminating cleaning solution is slightly stronger than the Formula B. The delaminating solution is derived from the skin of an orange, and the Material Safety Data Sheet is shown in Attachment IV.

The AP72A is used on parts which are extremely dirty and greasy. The solvent blend is manufactured by McKesson Environsystems. The Material Safety Data Sheet is shown in Attachment V. McKesson Environsystems also recycles the waste solvent.

There is one gas-fired carousel cleaner for cleaning parts in bulk. Parts are wheeled into the cleaner and washed on a five-minute cycle using Formula B.

There are five spray cleaning booths for cleaning various parts. Two of the cleaning booths are presently equipped to use the AP72A solvent blend. Two of the cleaning booths are presently equipped to use the delaminating solution. One booth is presently equipped to use Formula B. Each spray booth is exhausted to the atmosphere. All of the booths consist of three side walls with an open front. Parts are placed onto carts and wheeled into the booth. The cleaning solution is manually sprayed onto the dirty parts. There are grates on the floor of each booth. The excess liquid cleaning solution flows into a pit where it may be reused or may be disposed of in underground sludge tanks. If the solution will be reused it is pumped into a holding tank, where a weir removes the heavy particles, so that the cleaning solution may be reused. Makeup quantities of the cleaning solution are added as needed. At the time of the inspection, solvent odors were prevalent near the booths utilizing the AP72A solvent blend. The solvent generated from the AP72A booths is temporarily held in the underground storage tanks, from there, the solvent is pumped to one of two holding tanks, located outside the building, to be recycled.

Located in one of the AP72A solvent booths is a small cold cleaning solvent dip tank, which also utilizes the AP72A solvent blend. The exhaust from the dip tank is expelled into the booth where it is located. The waste solvent from the dip tank is also flushed into the underground storage tank. I was told that the tank is rarely used. The dip tank is used for soaking extremely dirty parts, and no baskets are processed through the tank. At the time of the inspection, parts were soaking in the solvent. The cover of the solvent tank was open, and the solvent was dirty. Solvent odors were prevalent in the area.

Also located at the Xerox Corporation's Oak Brook facility are two soak tanks which utilize the delaminating solution. There is also one Formula B rinse booth, and a conveyORIZED "cafeteria-style" dish washing machine, which utilizes the Formula B.

#### Painting Operations

Xerox has two main painting areas. Water based coatings from Tenax Finishing Products Company and Armitage are used at Xerox and thinned with water as needed. Approximately 640 gallons of paint are used per month (1984 data). The approximate paint density is 10 pounds per gallon and each gallon of coating contains approximately 1.1 pounds of VOCs. A typical breakdown of the water based paints used at Xerox is shown in Attachment VI.

One paint area has four separate booths. Each booth consists of three side walls with an open front. The whole xerox machine is wheeled into a booth, and the exterior is painted in this area. There are three different colors which are available for use. A flat coat is applied first. The machine is allowed to dry in place. Finally, a texture coat is applied. Each paint booth has one applicator station. Each spray applicator utilizes

air atomization. There is one centralized exhaust per two booths and the air is vented to the atmosphere. Two operators work the first shift and two work the second shift in the paint area.

The other spray painting area consists of two booths for painting miscellaneous metal parts and plastic parts (approximately 50%: 50%). Each booth utilizes filters for particulate control and the exhaust is vented to the atmosphere. Each paint booth consists of three side walls with an open front and has one applicator station. The paint spray applicators utilize air atomization. There are two ovens adjacent to the painting area; however, I was told that they have not been used for approximately six to seven years. A clear acrylic material is used on some of the parts, prior to painting, when a persistent layer of ink remains on the part, so that the ink will not bleed through. A Material Safety Data Sheet for the acrylic used at Xerox is shown in Attachment VII.

### Boilers

There are two gas-fired boilers which are used to heat the offices via base-board heaters. The boilers are manufactured by Fred Kramer and Associates. There are also two gas-fired water heaters.

### Follow-ups and Conclusions

The Xerox Corporation had been operating another refurbishing center located at 100 Winsor Drive in Oak Brook, across the street from the facility on 1808 Swift Drive, Oak Brook. I have been told that the building at 100 Winsor Drive is presently used for storage.

The State Notification is shown in Attachment VIII.

### Attachments

Kelly Masters, Environmental Engineer  
Xerox Corporation

Earl Hitt, Manager  
Technical Services  
Xerox Corporation